

WHAT IS CLAIMED IS:

1. A nucleic acid molecule present in other than its natural environment, wherein said nucleic acid encodes a fluorescent protein from *Aequorea coerulescens*.
2. The nucleic acid of claim 1, wherein said nucleic acid is isolated.
3. The nucleic acid of claim 1, wherein said fluorescent protein has an amino acid sequence selected from the group consisting of: SEQ ID NO: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, or 24.
4. The nucleic acid of claim 3, wherein said nucleic acid has a sequence similarity of at least about 70% with a sequence of at least 10 residues in length taken from the group of sequences consisting of SEQ ID NO: 01, 03, 05, 07, 09, 11, 13, 15, 17, 19, 21, or 23.
5. The nucleic acid of claim 1, encoding a mutant fluorescent protein.
6. The nucleic acid of claim 5, wherein said mutant protein comprises at least one point mutation as compared to a wild type protein.
7. The nucleic acid of claim 5, wherein said mutant protein comprises at least one deletion mutation as compared to a wild type protein.
8. A nucleic acid molecule having a sequence that is substantially similar to or identical to a nucleotide sequence of at least 10 residues in length taken from SEQ ID NO: 01, 03, 05, 07, 09, 11, 13, 15, 17, 19, 21, or 23.
9. An isolated nucleic acid or mimetic thereof that hybridizes under stringent conditions to a nucleic acid selected from the group consisting of:
 - (a) an isolated nucleic acid encoding a fluorescent protein from *Aequorea coerulescens*;

- (b) a nucleic acid having a sequence that is substantially similar to or identical to a nucleotide sequence of at least 10 residues in length from SEQ ID NO: 01, 03, 05, 07, 09, 11, 13, 15, 17, 19, 21, or 23;
- (c) an isolated nucleic acid that encodes a mutant fluorescent protein from a *Aequorea coerulescens*;
- (d) complements of nucleic acids (a) - (c); or
- (e) fragments of nucleic acids (a) - (c).

10. A construct comprising a vector and the nucleic acid of claim 9.
11. An expression cassette comprising:
 - (a) a transcriptional initiation region functional in an expression host;
 - (b) the nucleic acid of claim 9; and
 - (c) and a transcriptional termination region functional in the expression host.
12. A cell, or progeny thereof, comprising the expression cassette of claim 11.
13. A method of producing a chromo- or fluorescent protein, said method comprising growing the cell of claim 12 under conditions where the chromo- or fluorescent protein is expressed.
14. The method of claim 13 further including the step of isolating the chromo- or fluorescent protein substantially free of other proteins.
15. A protein or fragment thereof encoded by the nucleic acid of claim 9.
16. A protein or fragment thereof having a sequence similarity of at least about 95% to the protein or fragment of claim 15.
17. A fusion protein incorporating the protein or fragment of claim 15.
18. An antibody binding specifically to the protein of claim 15.
19. A transgenic organism comprising the nucleic acid of claim 9.

20. A kit comprising the nucleic acid of claim 9 and instructions for using the nucleic acid.